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ABSTRACT

The research was designed to determine the net effect of changes by students from one curriculum to another as measured by grades and expressed satisfaction with choices, in order to obtain information to be used in counseling. On the basis of information from the Office of Associate Dean for Instruction in the College of Agriculture, the Registrar's Office, and questionnaires from 344 senior, male, Texas-resident students of the College in the Fall semester of 1969, several determinations were made. (1) Factors influencing students to major in agriculture were: college teachers for the changers, parents and vocational agriculture teachers for the non-changers. Experience factors influenced both groups. (2) Stability of choice of curricula was associated with the size of high school graduating classes (students from smaller classes changing less frequently), with the size of the hometown (percent of non-changers inversely related to size), and with the student's satisfaction with the person influencing the selection of the University and with the person influencing the choice of major. (3) Mean scholastic aptitude test scores were higher for changers than non-changers. (4) The academic performance was better for non-changers. On the basis of the information gathered, brief conclusions were presented and recommendations proposed. (AG)

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A REPORT OF RESEARCH

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CURRICULAR CHOICES AND PERFORMANCE OF STUDENTS IN THE COLLEGE OF AGRICULTURE AT TEXAS A&M UNIVERSITY

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PREFACE

The choice of a career is one of the major problems confronting young people today. Efforts are made by counselors, teachers, parents and friends to help students decide on their life's work. However, most young persons lack familiarity with career opportunities available which imposes a severe limitation on the amount of help adults can provide. It would be expected, therefore, that many students would change fields of study in college as they have opportunities to expand their knowledge of possibilities for career choices.

This research was designed to determine the net effect of changes from one curriculum to another as measured by grades and expressed satisfaction with choices. The general findings should be helpful to faculty advisors who counsel with students in helping them select a program of study that will meet their professional goals.

Dr. Henry L. Williams, director of occupational education programs for the Brazosport Public Schools near Freeport, Texas, was responsible for the major portion of this research. He entered college without adequate knowledge of professional opportunities, and no doubt his memory of frustrations experienced in making a change from one curriculum to another in his search for a career goal generated a special interest in this research.

Earl S. Webb
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July, 1971

CURRICULAR CHOICES AND PERFORMANCE OF STUDENTS IN THE COLLEGE OF AGRICULTURE AT TEXAS A&M UNIVERSITY

Purpose

The purpose of this study was to obtain information to be utilized in counseling students and prospective students in the area of curricular choices in the College of Agriculture at Texas A&M University. Specific objectives were:

1. To identify factors which influenced students to major in agriculture at Texas A&M University
2. To identify factors associated with stability in choice of curricula
3. To compare the scholastic aptitude of students who changed curricula with those who did not change
4. To compare the academic performance of students who changed with those who did not change, and
5. To develop a list of recommendations to be used for counseling students and prospective students about choice of curricula in the College of Agriculture at Texas A&M University.

Procedure

The sample for the study was 401 senior, male students in the College of Agriculture during the Fall semester of 1969 who were residents of

Texas. Data were obtained from students files in the office of the Associate Dean for Instruction in the College of Agriculture, from permanent records in the Registrar's Office of the University, and from a questionnaire mailed to each student.

Three hundred forty-four or 85.8 percent of the students responded to the questionnaire. Scholastic aptitude test scores were obtained from the Registrar's Office on 179 students who entered the University as freshmen and on 145 of the transfer students. Grades earned, curricular choices at Texas A&M University, size of high school graduating classes, and rank in high school graduating classes were obtained from student files.

Students were compared in three ways to analyze the selected factors. The first comparison was made of students based on their first curricular choice in the University and grouped as follows: changers within the College of Agriculture, changers from the College of Veterinary Medicine, changers from the College of Engineering, changers from colleges other than veterinary medicine and engineering, and non-changers. A second comparison was made between students who had changed majors with students who had not changed majors at Texas A&M University. The third comparison was made of students among the various curricular areas within the College of Agriculture.

The following factors were tested by appropriate statistical means: size of high school graduating class, quarter rank in high school graduating class, age, marital status, size of hometown, satisfaction with major, influence of scholarships, income of parents, occupation of parents, education of parents, activities conducted on the campus,

persons influencing choice, factors influencing choice, and experiences influencing choice.

Major Findings

1. Approximately 45 percent of the students receiving degrees in the College of Agriculture at Texas A&M University did not enter the University in the same curricular choice that they were in at the time of the study. Of the 401 students in this study, 183 entered the University as freshmen and 218 transferred more than one semester of credit from other institutions.

As may be seen in Table I, of the 218 that transferred, 55 or 25.5 percent changed majors after entering the University, while 124 or 67.8 percent of the non-transfer students changed majors one or more times. It should be noted that this study did not include students that had changed out of agriculture or those that had not persisted to senior classification.

TABLE I

Number and Percent of Changers and Non-Changers by Transfers and Non-Transfers

	Changers		Non-Changers		Total	
Students	Number	Percent	Number	Percent	Number	Percent
Transfers	55	25.5	163	74.5	218	100.0
Non-Transfers	124	67.8	59	32.2	183	100.0
Total	179	44.6	222	55.4	401	100.0

Of the 179 changers, 43 changed within the College of Agriculture, 85 changed from the College of Veterinary Medicine, 23 changed from the College of Engineering, and 28 changed from other colleges within the University. It should be pointed out that some of the changers from veterinary medicine were caused by students not being admitted to the professional curriculum in veterinary medicine.

2. Students changing to the College of Agriculture from other colleges within the University were not normally distributed among the various curricular areas within the College of Agriculture. This may be partially explained by the fact that some students who were not admitted to the professional curriculum in the college of Veterinary Medicine chose to pursue a degree in animal science and apply for admission to the College of Veterinary Medicine at a later date.

3. Parents, former students, vocational agriculture teachers, and friends influenced students most to attend Texas A&M University in descending order. High school counselors, other teachers, junior college teachers and county agents had the least influence with only 21 or 6.3 percent of the students identifying them as the persons who influenced them most to attend the University. Forty-nine or 14.8 percent said that no individual influenced them.

4. College teachers influenced changers most to major in agriculture, while non-changers were influenced most by parents and vocational agriculture teachers to major in agriculture.

5. There was not a significant difference between changers and non-changers as influenced by activities conducted on the campus to attend Texas A&M University. Eighty-seven or 25.6 percent said that

activities conducted on the campus influenced them to attend Texas A&M University. These activities, in descending order of importance, were: judging contests, career days, athletic activities, and State 4-H Club Round-up.

6. The reputation of Texas A&M University was the factor which 63.3 percent said influenced them most to attend the University, and 21.5 percent said that their degree program was available only at Texas A&M University. Of the 72 who said their degree program was available only at the University, 38 were non-changers. There was a significant difference among the groups that changed majors as influenced to attend the University by factors other than persons and activities. When all changers were grouped together and compared to non-changers, however, the difference was not significant.

7. Scholarships did not influence a significant number of students to attend Texas A&M University. Seventy-seven students said that they had received a scholarship at the University and only 6 of these said that it influenced their decision. It should be pointed out that no attempt was made to determine when the scholarship was received. It seems likely, therefore, that some students received scholarships after entering the University.

8. Major experience factors which influenced students to major in agriculture, in order of importance, were: liked work experience in agriculture, wanted to farm or ranch, and liked to work with people in agriculture.

9. As shown in Table II, stability in curricular choice was found to be associated with size of high school graduating classes as students

TABLE II

Number and Percent of Changers and Non-Changers
by Size of High School Graduating Class

Size Graduating Class	Changers		Non-Changers		Total	
	Number	Percent	Number	Percent	Number	Percent
1 - 25	15	8.4	36	16.3	51	12.8
26 - 50	25	14.0	44	19.9	69	17.3
51 - 75	21	11.8	31	14.0	52	13.0
76 - 100	18	10.1	22	10.0	40	10.0
101 - 150	20	11.2	20	9.0	40	10.0
151 - 200	13	7.3	19	8.6	32	8.0
201 - 300	16	9.0	18	8.1	34	8.5
301 - 400	13	7.3	12	5.4	25	6.3
401 up	37	20.8	19	8.6	56	14.0
Total	178	44.6	221	55.4	399	100.0

from schools with small graduating classes changed less frequently than did students from large graduating classes. The percent of non-changers was inversely related to the size of the graduating class.

10. Stability in a curriculum was not found to be associated with quarter rank in high school graduating class, age of students, marital status of students, scholarships received by students, income of parents, occupation of parents, or educational level of parents.

11. Stability in a curriculum was not associated with activities conducted on the campus which influenced students to attend the

University, experience factors which influenced students to choose agriculture or the reputation of Texas A&M University which influenced 63.3 percent of the students to attend the University.

12. Stability in curricular choice was associated with size of hometown. Table III shows the percent of non-changers to be inversely related to the size of student's hometown.

TABLE III

Number and Percent of Changers and Non-Changers by Size of Hometown

Size of Hometown	Changers		Non-Changers		Total	
	Number	Percent	Number	Percent	Number	Percent
0 - 1,000	20	13.2	40	20.7	60	17.4
1,001 - 4,000	32	21.2	51	26.4	83	24.1
4,001 - 25,000	42	27.8	64	33.2	106	30.8
25,001 - 500,000	28	18.5	26	13.5	54	15.7
500,001 up	29	19.2	12	6.2	41	11.9
Total	151	43.9	193	56.1	344	100.0

13. Satisfaction with curricular choice was associated with stability. As seen in Table IV, non-changers were better satisfied than were changers with their final curricular choice. When compared by groups of changers, those from veterinary medicine showed the least degree of satisfaction.

14. Stability in a curriculum was associated with the person influencing students to attend Texas A&M University. Students influenced

TABLE IV

Number and Percent of Changers and Non-Changers by Satisfaction with Final Curricular Choice

	Changers		Non-Changers		Total	
Responses	Number	Percent	Number	Percent	Number	Percent
Yes	97	64.2	148	76.7	245	71.2
No	29	19.2	21	10.9	50	14.5
Undecided	25	16.6	24	12.4	49	14.2
Total	151	43.9	193	56.1	344	100.0

by a veterinarian and by parents were more likely to be changers than would normally be expected, while those influenced by vocational agriculture teachers and college teachers and staff members were more likely to be non-changers than would normally be expected.

15. Stability in a curriculum was associated with the person influencing students to choose a curriculum in agriculture. Students influenced to choose a curriculum in agriculture by vocational agriculture teachers and junior college teachers were more likely to be non-changers. Students influenced to choose a curriculum in agriculture by a college teacher, a friend or a veterinarian were more likely to be changers. College teachers may have had influence on students only after an initial curricular choice had been made and this influence resulted in a change of curricula.

16. Major reasons given by students for changing curricula in order of number responding:

(1) I was not interested in the required courses in my previous major.

(2) My original choice of major was not what I expected it to be.

(3) I was not admitted to the College of Veterinary Medicine.

(4) I was undecided about a major when I enrolled in Texas A&M University.

(5) Teachers in my original major were not interested in me as an individual.

(6) I was impressed by a teacher in my present major.

17. Scholastic aptitude test scores were associated with stability in curricular choice. The mean scholastic aptitude test scores for changers was higher than the mean for non-changers. Mean scores, in descending order by groups, were: changers from engineering, changers from colleges other than engineering and veterinary medicine, changers from veterinary medicine, changers within the College of Agriculture and non-changers. Mean scholastic aptitude test scores of changers were also higher than non-changers in each curricular area within the College of Agriculture. The difference between mean scholastic aptitude test scores of changers and non-changers was significant.

18. There was a significant difference in mean grade point ratios earned among the various groups. Non-changers with the lowest mean scholastic aptitude test scores had the highest overall mean grade point ratio. Mean grade point ratios of changer groups, in descending order, were: changers from colleges other than engineering and veterinary medicine, changers from engineering, changers within the College of Agriculture and changers from veterinary medicine.

19. With scholastic aptitude controlled as a covariate, the performance of non-changers was better than changers based on grade point ratios earned. As may be seen in Table V, students earned higher grade point ratios after changing in each curricular area within the College of Agriculture. There was not a significant difference, however, in grade point ratios earned by changers among the curricular areas in the College of Agriculture. Likewise, there was no difference with scholastic aptitude controlled as a covariate.

TABLE V

Performance of Changers by Curricular Area

Curricular Area	Number	Overall GPR	GPR Before Changing	GPR After Changing
Soil and Crop Science	14	1.75	1.49	1.87
Range Science	2	1.73	1.44	1.94
Agricultural Engineering	9	1.64	1.50	1.74
Pountry Science, Dairy Science, Entomology	19	1.54	1.36	1.77
Recreation and Parks	15	1.50	1.11	1.75
Animal Science	34	1.41	1.18	1.66
Agricultural Education	11	1.40	1.11	1.59
Agricultural Economics	20	1.35	1.10	1.51
Wildlife Science	17	1.28	1.16	1.37
Composite	141	1.47	1.23	1.65

Conclusions

Assuming the sample to be representative of the students in the College of Agriculture at Texas A&M University, the following conclusions may be drawn:

1. The process of choosing a curriculum appears to continue with each individual until he attains the degree of satisfaction that he seeks and, or until he experiences success. In support of this conclusion it was found that students who entered the University having made a final curricular choice earned higher grade point ratios. Also, students who changed curricula earned higher grades after changing in each curricular area within the College of Agriculture. This was, likewise, supported by the alternate curricula chosen by students not admitted to the professional veterinary medicine curriculum who continue seeking to become veterinarians.

2. Stability in a curricular choice appears to be good only after a student finds some degree of success. Even though students that did not change curricula earned higher over-all grade point ratios than changers, it was noted that the grade point ratios of changers improved after changing in each of the curricular areas within the College of Agriculture.

3. Success in a curricular choice is most likely to occur (1) when students have made a curricular choice in which they are interested, (2) when students know what courses they will be required to take, and (3) when students have teachers who show an interest in them as individuals. Only 14.5 percent of the students said that they would not choose their present major if starting their college career over.

Recommendations

The following recommendations are made based on the findings in this research:

1. That these findings be made available to faculty who work with students in teaching, counseling, and in advisory capacities.

2. That entering students who are interested in agriculture, but who are undecided on a specific major, be assigned to selected faculty advisors in agriculture and that students be given an opportunity to take courses for exploratory purposes before declaring a major.

3. That efforts be continued to familiarize students with the various curricula available and the occupational opportunities afforded students by each department in agriculture.

4. That additional research be conducted to establish the correlation between scholastic aptitude test scores and grades earned by students in agriculture.

5. That follow-up studies be made continuously to determine the extent to which occupational goals of students are being met.

6. That the Colleges of Agriculture continue to evaluate the effectiveness of their counseling programs in light of students' backgrounds and experiences.